NICKEL SULFATE SMELTER INDUSTRY
EAST HALMAHERA REGENCY, NORTH MALUKU PROVINCE

WHY INVEST ?

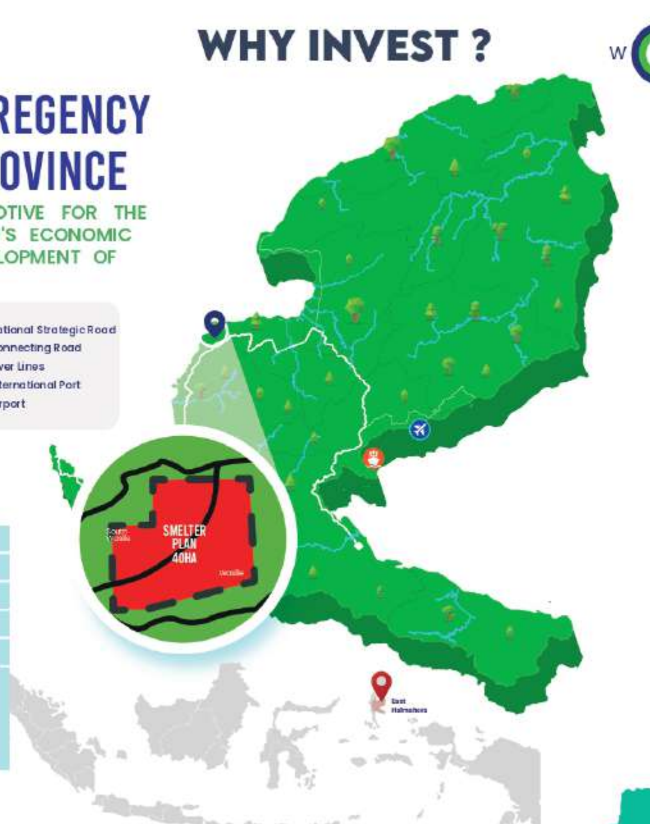
EAST HALMAHERA REGENCY NORTH MALUKU PROVINCE

"EAST HALMAHERA AS A LOCOMOTIVE FOR THE ACCELERATION OF NORTH MALUKU'S ECONOMIC IMPROVEMENT THROUGH THE DEVELOPMENT OF THE NICKEL SMELTER INDUSTRY"

GEOGRAPHICAL LOCATION
0° 40'- 1° 4' North Latitude
126° 45' - 129° 30' East Longitude

AREA
650,619 ha

TOTAL POPULATION
95.005 peoples



Location	East Halmahera Regency
Estimated Value Investment	USD 603,12 Billion
Land Area / Land Status	40 Ha Other Uses Area (APL)
Business Scheme	Land Rent, Land Value Rp2,500-10,000 per m2
Project Ownership	-
Financial Feasibility	B/C Ratio : 3.22 WACC : 9.3% IRR : 11.23% NPV : USD 360.23 M PBP : 10 tahun

INVESTMENT
USD 603,15 B

CAPACITY	AREA	FEED STOCK
34.000 TON MSP	40 HA	39,5 MILLION TON LOW GRADE

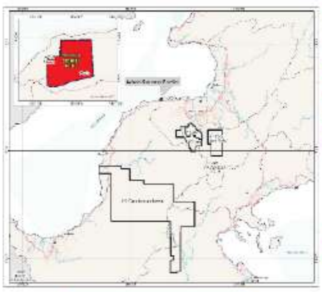
WORK FORCE	ELECTRICITY
1500 PEOPLE	40-50 MW

Project Description

- East Halmahera has reserves of saprolite (234 million tons) and limonite (39.5 million tons) laterite nickel ores, with (content) of around 6.5 million tons of pure nickel.
- Demand for high-purity nickel is projected to increase to 1.83 million tonnes by 2040, in line with the increasing demand for electric vehicle batteries.
- The location offered is in Wasile District - South Wasile, supported by active nickel mining and supporting infrastructure in the form of a special port.
- Status of Other Use Areas, is a former nickel mining that has been returned to the local government.
- The proposed technology is High-Pressure Acid Leaching (HPAL) with an output capacity of 34,000 tons of mixed sulfide (MSP) deposits, containing nickel (55%) and cobalt (5%).

LOCATION AFFORDABILITY

EAST HALMAHERA NICKEL

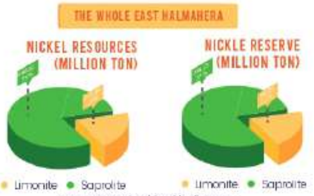


CLASSIFICATION	ORE (MILLION TON)	METAL (MILLION TON)
RESOURCE		
• Measurable	329.18	5.93
• Indicated	290.50	5.22
• Guessed	284.56	5.12
RESERVE		
• Proven	171.66	3.08
• Estimated	114.84	2.61

EAST HALMAHERA WEST COAST

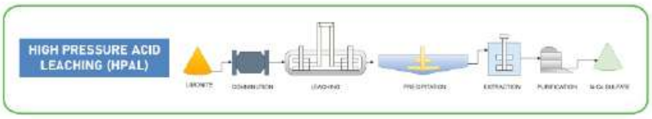
DISTRIBUTION OF NICKEL ORE (MILLION TONS)

THE WHOLE EAST HALMAHERA



Source: ESDM North Maluku, with adjustments

HIGH PRESSURE ACID LEACHING TECHNOLOGY (HPAL)



LIME	WATER	SULFURIC ACID
300 TON / DAYS	21,700 M³ / DAYS	1,100 TON / DAYS

PRODUCT PRICE
10.950 USD/TON (MSP)

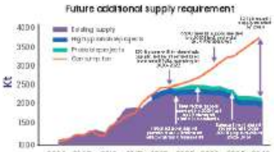
BATTERY MARKET VERY POTENTIAL

"The need for nickel as a raw material for electric vehicle batteries is predicted to create pure nickel supply-demand gap of 1.83 million tonnes by 2040, creating a market potential for nickel processing and refining"

ANALISA PASAR NIKEL:

1. Nickel production until 2023 is still dominated by the fulfillment of stainless steel.
2. The increase in the production and use of electric vehicles (EV) until 2040 results in a supply gap of 113-183 million tons of nickel sulfate

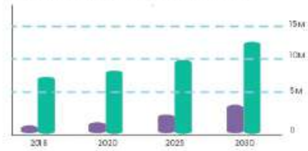
Future additional supply requirement



Source: Wood Mackenzie Ltd., Global nickel long-term outlook, December 2018

Going Electric

Indonesia needs 25% of all electric world production by 2030



*Green chart shows production of motorcycles and purple chart show other types of vehicles
*Source: Indonesia's industry Ministry

Dramatic decline in 'spare' class 1 nickel in medium term; large longer term supply gap

Source: CRU, 2020

FISCAL SUPPORT

TAX ALLOWANCE	TAX HOLIDAY	IMPORT DUTY FACILITIES
(Government Regulation No. 18/2015)	(Minister of Finance Regulation No.159/PMK.010/2015)	(Minister of Finance Regulation No.176/PMK.011/2009 juncto. No. 188/PMK/010/2015)
30% FROM INVESTMENT VALUE Reduction of net income by 30% of the total investment is charged for 6 years. **143 BUSSINESS FIELD** In accordance with PP 18 of 2015, expanded from 129 business fields in the previous regulation. Based on several criteria including high investment value or for export, large employment absorption, local content. In addition to that, it can also be given according to the location (especially outside Java).	**5-15 YEARS** Tax relief, since the start of commercial production. Pioneer Industry 1. Upstream metal industry 2. Petroleum refining industry 3. Basic organic chemistry sourced from petroleum and gas 4. Machinery industry that produces industrial machinery 5. Processing industry based on agricultural, forestry and fishery products 6. Telecommunications, information and communication industry 7. Marine transportation industry 8. Processing industry which is the main industry in KEK 9. Economic infrastructure other than those using the Government and Business Entity Cooperation scheme **RP 1 TRILLION** Investment Value	Import Duty on Imported Machinery, Items and Materials 2 years of exemption from import duty or 4 years for companies that use domestically produced machines/equipment (min. 30%) **INDUSTRY** 1. Tourism and culture 2. Transportation/transportation (for public transportation services) 3. Public health services 4. Mining 5. Construction 6. Telecommunications Industry 7. Port